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Northern

Engineering
and Testing, Inc.

PRE-DESIGN INVENTORY OF THE CATARACT CREEK DRAINAGE,

JEFFERSON COUNTY, MONTANA

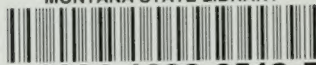
1987 ABANDONED MINE RECLAMATION PROGRAM

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PRE-DESIGN INVENTORY OF THE CATARACT CREEK DRAINAGE, JEFFERSON COUNTY, MONTANA

1987 ABANDONED MINE RECLAMATION PROGRAM

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Prepared by Northern Engineering and Testing, Inc.

Plate 1 - Orange Lake Pit
P. O. Box 4699
1610 B Street
Helena, Montana 59604

February 10, 1988

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(Brassic and Ross, 1974; Pedersen, 1977; Smith and Hill, 1986) have identified the Crystal Mine (M 8 12-079, Plate 1) as the primary contributor of metals contamination to the Cataract drainage. The Ontario Department of Fish, Wildlife and Parks has supplied for and received a Resource Inventory Form (RIF) which is a key document associated with the mine. While the Crystal Mine is the largest single source of low pH and metal-contaminated water, the previous inventory identified numerous other contributors that may also be significant sources of continuing stress to Cataract Creek.

1.0 SUMMARY

The Cataract Creek drainage basin is designated a pre-design area within the Abandoned Mine Reclamation program. During the 1987 field season Northern Engineering and Testing conducted an inventory of the basin to locate potential sources of contamination to the watershed, and identify hazardous mine openings and structures that may endanger public safety. The inventory investigated areas disturbed by historic mining activity in the drainage basin, as determined from aerial photos, literature review, computer searches, and field reconnaissance.

The inventory succeeded in locating numerous public hazards and potential/probable point source contributors of contamination to Cataract Creek and its tributaries. A total of 38 hazardous mine openings, 43 hazardous structures, 26 mine drainage point sources, and 21 sediment point sources were identified from 61 sites investigated.

A summary of the collected information is presented in the appendices. Appendix A contains a data base printout of the mine sites in numeric order by Problem Area Number (PA #). A breakdown of the data base prioritization scheme, followed by a ranked list of the Cataract Creek sites is presented in Appendix B. The current data base algorithm assigns higher priority to hazards than environmental problems. Plate 1 is a map of the basin showing the inventoried sites. The results of owner contact for inventory consent are found as Appendix C.

Previous environmental studies (Braicio and Botz, 1974; Pedersen, 1977; Phillips and Hill, 1986) have identified the Crystal Mine (PA # 22-073, Plate 1) as the primary contributor of metals contamination to the Cataract drainage. The Montana Department of Fish, Wildlife and Parks has applied for and received a Resource Indemnity Trust Grant to mitigate problems associated with the mine. While the Crystal Mine is the largest single source of low pH and metals-contaminated waters, the pre-design inventory identified numerous other contributors that may also be significant sources of continuing stress to Cataract Creek.

2.0 HAZARDOUS MINE OPENINGS AND STRUCTURES

The Cataract Creek basin inventory identified a number of hazardous mine openings on both patented and unpatented ground. Most were caved, several were safeguarded for the near term, and many more are candidates for permanent closure. Use of bulkheads will be limited due to the incompetent intrusive country rock in the basin.

Hazardous structures identified during the inventory include load-out structures, mill buildings, retaining walls, head frames and smaller buildings used to support past mining activity. Most of the smaller structures are collapsed or partially collapsed. Historical significance of any inventoried structures has not yet been determined. Also of note are diggings associated with antique hunters that have scavenged most dumps. Table 1 contains detailed information on hazards found at twelve sites that justify immediate action in 1988. See Plate 1 for their location within the drainage.

TABLE 1
PUBLIC HAZARDS

| P.A. # | SITE NAME | MINE OPENINGS | DIMENSIONS | STRUCTURES |
|--------|-----------------|---------------|----------------|------------------------|
| 22-077 | Morning Glory | Shaft | 20 x 20 x 15 | Mill |
| 22-132 | Boulder Chief | Highwall | 300 x 100 x 30 | |
| 22-073 | Crystal | Adit | NM | Trestle Load Out |
| | | Highwall | 830 x 90 x 50 | Small Load Out |
| | | Highwall | 40 x 20 x 40 | 4 Collapsing Buildings |
| 22-127 | Buckeye | Shaft | 40 x 25 x 25 | 1 Wooden Shack |
| 22-128 | New Cottage | Subsidence | 10 x 10 x 10 | |
| | | Subsidence | 10 x 10 x 10 | |
| 22-125 | Boston | Subsidence | 20 x 25 x 10 | |
| | | Shaft | 20 x 20 x 40 | |
| 22-138 | Vera Marie | Adit | 6 x 4 | Load Out |
| | | Shaft | 15 x 15 x 70 | |
| | | Shaft | 9 x 15 x 15 | |
| 22-075 | Eva May | | | Mill Building |
| | | | | Load Out |
| 22-106 | Crescent | Portal | NM | Mill Building |
| | | | | Load Out |
| | | | | Portal Entrance |
| 22-030 | Hattie Ferguson | | | Load Out |
| | | | | Small Building |
| 22-129 | Deer Lodge | Shaft | 20 x 25 x 30 | |
| | | Shaft | 20 x 10 x 20 | |
| | | Shaft | 20 x 30 x 10 | |
| | | Shaft | 20 x 15 x 15 | |
| 22-130 | Mount Thompson | Highwall | 200 x 5 x 15 | Load Out |
| | | Shaft | 3 x 8 x 30 | Head Frame |
| | | | | Hoist House |

*NM (not measured)

3.0 WATER QUALITY

During the inventory particular attention was focused on identifying actual and potential contaminant sources that adversely affect Cataract Creek and its tributaries. Sources identified include:

- o direct discharge of mine waters from underground workings
- o seeps emanating from the base of tailings and rock dumps
- o drainage problems resulting in increased recharge to mine workings
- o mine dumps adjacent to ephemeral/perennial streams that contribute sediment to the surface water
- o large unvegetated surface disturbances.

Table 2 details information collected on mine drainages. See Appendices A & B for a summary of other site information. Plate 1 shows their location within the basin.

During inventory, discharges from mine workings were tested for pH, specific conductivity (SC) and estimated for flow. Most discharges were less than one gallon per minate (gpm). The pH ranged between 3.4 to 7.8, and SC ranged from 40 to 720 umhos/cm. Discharges encountered during the time of the inventory were probably at or near seasonal low flow. Numerous unvegetated mine dumps adjacent to perennial and ephemeral streams may contribute additional, and potentially toxic, sediment to the drainage. Entrainment of this material during high runoff events can result in increased turbidity, hazardous metals concentrations. Sources identified include waste rock dumps, tailings, and larger mine disturbances that have extensive unvegetated areas. Table 3 presents detailed information on sediment sources identified during the inventory, and Plate 1 shows their location.

TABLE 2
POTENTIAL ENVIRONMENTAL PROBLEMS - MINE DISCHARGE SUMMARY

| P.A. # | SITE NAME | SOURCE | pH | SC (uhmos/cm) | Q (gpm) |
|--------|----------------------|--------------------------|--------------------|------------------|------------|
| 22-073 | Crystal | Adit | (3.4) | 350 | 3 |
| 22-075 | Eva May | Lower Adit | 7.2 | 440 | .5 |
| 22-106 | Crescent | Adit Tailings Seep | (4.2) (4.5) | 370 410 | 2 NM |
| 22-125 | Boston | Adit | 6.9 | 380 | NM |
| 22-126 | California/Dedington | Adit | 7.1 | 290 | NM |
| 22-128 | New Cottage | Caved Adit | 6.6 | 720 | NM |
| 22-131 | Minneapolis | Adit | 7.2 | NM | NM |
| 22-132 | Boulder Chief | Adit | NM | NM | NM |
| 22-135 | Ida May | Pond | 5.9 | 80 | NM |
| 22-138 | Vera/Marie | Base of dump | 6.4 | 210 | .5 |
| 22-140 | Ida M. | Adit | 5.2 | NM | 3 |
| 22-141 | Mountain Chief | Adit | NM | NM | 2 |
| 22-148 | NW SW Section 27 | Pond | 6.8 | 170 | NM |
| 22-150 | SE SW Section 28 | Adit | 7.2 | 170 | 5 |
| 22-154 | Lady Nell/Ada | Adit | 5.2 | 40 | 1-2 |
| 22-156 | Cataract | Caved adit | 7.8 | 60 | .5 |
| 22-157 | SW NW Section 28 | Caved adit | 7.4 | 300 | 1 |
| 22-159 | Hiawatha | Caved adit | 7.2 | 330 | .25 |
| 22-167 | Lizzie Osborne | Caved adit | 6.8 | 150 | <1 |
| 22-170 | Rocker | Caved adit Caved adit | 7.5 7.2 | 70 60 | <1 4 |
| 22-174 | Sparkling Water | Caved adit | 7.4 | 80 | NM |

* NM (not measured)

TABLE 3
POTENTIAL ENVIRONMENTAL PROBLEMS - SEDIMENTATION SUMMARY

| P.A. # | SITE NAME | TYPE | SIZE (l x w x d) | COMMENTS |
|--------|----------------------|----------------|----------------------------------|-------------------------------------|
| 22-073 | Crystal | Mine dump | 200'x 175'x 20' | Oversteepened dump |
| 22-075 | Eva May | Tailings | 300'x 200'x 5' | Fine material |
| 22-077 | Morning Glory | Tailings | 250'x 50'x 10' & 80'x 30'x 5' | Fine material |
| | | Mine dump | 300'x 80'x 30' | Sulfides present |
| 22-106 | Crescent | Tailings | 30'x 150'x 3' | Fine material |
| | | Mine dump | 150'x 175'x 15' | Sulfides present |
| | | Disturbed area | 150'x 20'x 5' | Sulfides present |
| 22-125 | Boston | Mine dump | NA | |
| 22-126 | California/Dedington | Mine dump | NA | |
| 22-128 | New Cottage | Mine dump | NA | |
| 22-131 | Minneapolis | Mine dump | 90'x 35'x 25' | |
| 22-138 | Vera/Marie | Mine dumps | 90'x 30'x 8' & | Sulfides present |
| | | | 30'x 20'x 15' | Sulfides present |
| 22-142 | Custer/Hiawatha | Mine dumps | 55'x 70'x 20' & | Oversteepened dumps |
| | | | 120'x 40'x 25' & | with sulfides present |
| | | | 80'x 60'x 30' | |
| 22-153 | Lizzie Osborne | Mine dumps | 60'x 30'x 15' | Sulfides present |
| 22-155 | Clipper/Edna | Mine dumps | 40'x 20'x 15' & | Oversteepened dumps |
| | | | 30'x 10'x 10' | with sulfides present |
| 22-156 | Cataract | Mine dumps | 80'x 30'x 10' & | Abandoned mill site |
| | | | 80'x 20'x 10' | Sulfides present |
| | | Tailings | NA | Revegetated tailings in flood plain |
| 22-159 | Hiawatha | Mine dump | 150'x 30'x 10' | Some sulfides present |
| 22-170 | Rocker | Mine dumps | 60'x 45'x 14' | Oversteepened slopes |
| | | | 60'x 70'x 5' | |
| | | | 45'x 30'x 5' | |
| | | | 25'x 15'x 7' | |

The low buffering capacity of water in the Cataract Creek basin creates a system that is easily unbalanced, as evidenced by iron hydroxides that precipitate out as "yellowboy" deposits on streambed material along several reaches of stream. The most noticeable examples of this are Cataract Creek from below its confluence with Hoodoo Creek, and the entire Uncle Sam Gulch. Precipitate is also noted at high water marks indicating that impacts may be greatest during spring runoff.

The following is a short narrative of the larger sites representing the greatest impact to the basin's water quality.

CRESCENT MINE (22-106): Located in the northernmost part of the Cataract Creek drainage (Plate 1). Extensive workings with several acid mine seeps and one adit discharge. Drainage from the site flows through a natural bog that may lessen downstream impacts. Sediment sources include a large rock dump and tailings. The Crescent Mine is the only acid mine drainage/sediment source in the upper Cataract Creek basin. Also inventoried were two large hazardous structures and one partially open dry adit.

EVA MAY MINE (22-075): Located at the confluence of Cataract Creek and Hoodoo Creek (Plate 1). Extensive mine workings with a lower adit that discharges mine waters that drain through a sulfide-bearing dump before entering Cataract Creek. Potential sediment sources are tailings adjacent to Cataract Creek, unvegetated areas in the main workings area, and a large rock dump with steep ravelling slopes. The site also has a hazardous mill structure.

CRYSTAL MINE (22-073): Located near the head of Uncle Sam Gulch (Plate 1). Acid mine waters flow from one caved adit. Several sediment sources include mill tailings and waste dumps with ravelling slopes. High walls from open pit workings and a large trestle load out create a danger to public safety. The mine was not thoroughly inventoried due to on-going exploration activity. Past production at

the mine, after May 1977, could preclude this site from receiving funds through the Abandoned Mine Reclamation Program. However, a Resource Indemnity Trust Grant has been authorized to address problems associated with metals contamination entering the drainage.

HATTIE FERGUSON (22-030): Located on the divide between Cataract Creek and Uncle Sam Gulch (Plate 1). Aerial photos indicate it is one of the larger mine sites in the basin and worthy of inclusion to the inventory. The property was not thoroughly inventoried due to lack of access. The mine was being actively explored during the 1987 field season.

MORNING GLORY (22-077): Located near the confluence of Uncle Sam Gulch with Cataract Creek (Plate 1). This site presents a large sediment source to Cataract Creek. The mine is confined to a relatively small area on a steep hillside with rock dumps that extend into the creek. Immediately downstream and adjacent to the creek is a large tailings dump. Several cabin sites further downstream are potential receptors to any contamination migrating off-site.

IDA M. (22-140) AND BOULDER CHIEF (22-132): Located in Section 27, T7N R5W (Plate 1). The sites contain two adits that discharge acid mine water and have large unvegetated mine dumps. These dumps have retaining walls, including one that has failed causing a large debris slide. Although the site is some distance from a stream, it warrants further study to determine its impact on basin water quality. The inventory identified three hazardous mine openings; two adits, and a small open pit.

OTHER WATER POLLUTION SOURCES: Excluding the aforementioned sites, a total of 18 adit discharges and 13 sediment sources were identified. On a singular basis, any one source may present a limited impact to the creek. As a whole, however, they appear to warrant further attention.

4.0 OWNER CONSENT

Letters for inventory consent were sent to 26 owners of patented claims, of which 12 agreed to the inventory, 13 did not respond, and one responded negatively. However, all mine sites were included in the inventory. In order to successively remedy problems in the Cataract Creek basin, further owner cooperation will be essential. Appendix C summarizes the owner contact completed for the 1987 season.

5.0 RECOMMENDATIONS

Further work in the basin should be directed towards documenting any human health hazards associated with mine related contamination to the surface and/or ground water. The environmental problems identified during the 1987 inventory should be further documented as should baseline conditions in the Cataract Creek drainage. It is recommended that the work plan include the following tasks:

Documentation/Remediation of Human Health Hazards.

A domestic well inventory of home/cabin owners below the Morning Glory tailings (Plate 1, PA# 22-077) should be conducted to investigate potential health concerns resulting from domestic use of poor quality ground water. If contamination is found to exceed Montana drinking water standards, an investigation to determine its source(s) should be conducted. A remedial plan could then be developed to correct the situation.

The dangerous adits and shafts identified in the inventory are currently threatening public safety. They should be included in a future Hazardous Mine Opening Project and permanently reclaimed. Further landowner contact will be required to pursue this action.

Documentation of Baseline Conditions.

In order to determine the effect mine discharge and sedimentation at abandoned mine sites is having on Cataract Creek water chemistry baseline conditions should be established. This information would also provide data for comparison with post-reclamation conditions. Recommended sampling stations along the creek are as follows:

- o the mouth of Cataract Creek
- o directly below the Morning Glory tailings

- o directly above the Morning Glory mine site
- o mouth of Uncle Sam Gulch
- o directly below the Crescent mine
- o directly below the Eva May mine
- o directly above the Eva May mine
- o an undisturbed stream in the upper Cataract Creek drainage as a control sample.

Documentation of Potential Environmental Problems.

Anticipating the point in time when AMR funds will be available to address problems (other than those threatening public health and safety) associated with abandoned hardrock mines, further action to document the environmental problems in the Cataract Creek drainage will be warranted.

Mine dumps identified as potential sediment sources should be sampled and analyzed either visually or analytically for metals and sulfide content. Sampling should include material obtained at depth and compositing of similar samples to lower the number of laboratory analyses required. Dumps defined as toxic should be included in the reclamation plan.

Discharges from mine workings should be sampled on a quarterly basis, excluding winter, to identify those that may be significant load contributors of metals in the drainage. Analysis of the data should include an assessment of their cumulative effect.

6.0 REFERENCES

- Braico, R.D. and M.A. Botz 1974. Appraisal of water quality in the Boulder River drainage and potential methods of pollution abatement and control. Montana Department of Health and Environmental Sciences, Helena.
- Knudson, K. 1984. Boulder River, Jefferson County, Montana: a review of impacts to the trout fishery and initial reclamation recommendations. Report to Montana Department of Fish, Wildlife and Parks. 24p.
- Montana Department of Fish, Wildlife and Parks 1986. Cataract Creek Reclamation Project. Application for Resource Indemnity Trust Grant. 29p.
- Nelson, F.A. 1976. The effects of metals on trout populations in the upper Boulder River, Montana. M.S. Thesis, Montana State University, Bozeman. 60p.
- Pedersen, D. 1977. An assessment of mining impacts on water quality in the northern Boulder Batholith. Montana Department of Health and Environmental Sciences, Helena. 53p.
- Phillips, G. and K. Hill 1986. Evaluation of sources and toxicity of copper and zinc in the Boulder River drainage, Jefferson County. Montana Department of Fish, Wildlife and Parks, Helena. 28p.
- Vincent, E.R. 1975. Southwestern Montana fishery investigation, project No. F-9-R-23, Montana Department of Fish, Wildlife and Parks, Bozeman.

APPENDIX A

DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU
ABANDONED MINE INVENTORY
TYPE AND LOCATION

| PA NO. | SITE | LEGAL DESCRIPTION | MINE TYPE | COUNTY | MINING DISTRICT | SMALLEST IDENTIFIED DRAINAGE BASIN | USGS QUAD | LATITUDE | LONGITUDE |
|--------|-----------------------|---------------------|-----------|-----------|-----------------|------------------------------------|--------------------|------------|------------|
| 22-003 | Bluebird | T7N R5W S13 SW NW | Hardrock | Jefferson | Catawact | Catawact | Jefferson City | N46 21 281 | W112 10 31 |
| 22-030 | Hattie Ferguson | T7N R5W S23 NE NE | Hardrock | Jefferson | Catawact | Catawact Creek | Basin | N46 19 35 | W112 14 46 |
| 22-032 | Mantle (East) | T6N R5W S9 SE NW | Hardrock | Jefferson | Catawact | Catawact | Mount Thompson | N46 17 26" | W112 14 21 |
| 22-043 | Saturday Night | T6N R5W S5 SW NE | Hardrock | Jefferson | Catawact | Catawact Creek | Basin | N46 18 10 | W112 15 05 |
| 22-073 | Crystal | T7N R5W S17 NE NE | Hardrock | Jefferson | Catawact | Uncle Sam Creek | Basin | N46 21 20 | W112 16 10 |
| 22-075 | Eva May | T7N R5W S22 NW NW | Hardrock | Jefferson | Catawact | Catawact | Mount Thompson | N46 21 00 | W112 13 20 |
| 22-077 | Morning Glory | T7N R5W S33 E NW | Hardrock | Jefferson | Catawact | Catawact | Mount Thompson | N46 19 05 | W112 14 35 |
| 22-106 | Crescent | T8N R5W S23 NE NE | Hardrock | Jefferson | Catawact | Catawact | Chessman Reservoir | N46 25 17 | W112 14 45 |
| 22-125 | Boston | T6N R5W S4 SW SE | Hardrock | Jefferson | Catawact | Catawact Creek | Mount Thompson | N46 17 51 | W112 13 56 |
| 22-126 | California-Dedington | T6N R5W S4 SE SE | Hardrock | Jefferson | Catawact | Catawact Creek | Mount Thompson | N46 17 49 | W112 13 30 |
| 22-127 | Buckeye | T6N R5W S4 NW SE | Hardrock | Jefferson | Catawact | Catawact Creek | Mount Thompson | N46 17 55 | W112 13 48 |
| 22-128 | New Cottage | T6N R5W S4 SW SE | Hardrock | Jefferson | Catawact | Catawact Creek | Mount Thompson | N46 17 47 | W112 13 52 |
| 22-129 | Deer Lodge | T6N R5W S4 SW SE | Hardrock | Jefferson | Catawact | Catawact Creek | Mount Thompson | N46 17 51 | W112 13 47 |
| 22-130 | Mount Thompson | T7N R5W S34 NW SW | Hardrock | Jefferson | Catawact | Catawact Creek | Mount Thompson | N46 18 47 | W112 12 38 |
| 22-131 | Minneapolis | T6N R5W S4 SE NW | Hardrock | Jefferson | Catawact | Catawact Creek | Mount Thompson | N46 18 05 | W112 14 18 |
| 22-132 | Boulder Chief | T7N R5W S27 SW NW | Hardrock | Jefferson | Catawact | Catawact Creek | Jefferson City | N46 19 48 | W112 12 24 |
| 22-133 | Victory | T6N R5W S9 NE NW | Hardrock | Jefferson | Catawact | Catawact Creek | Mount Thompson | N46 14 49 | W112 14 17 |
| 22-134 | Alsace | T8N R5W S28 NE NW | Hardrock | Jefferson | Catawact | Catawact Creek | Chessman Reservoir | N46 25 17 | W112 14 27 |
| 22-135 | Ida May | T8N R5W S28 NE NE | Hardrock | Jefferson | Catawact | Catawact Creek | Chessman Reservoir | N46 25 15 | W112 14 00 |
| 22-136 | Ousley | T8N R5W S28 NE NE | Hardrock | Jefferson | Catawact | Catawact | Chessman Reservoir | N46 24 53 | W112 14 00 |
| 22-137 | Corbitt/New Brunswick | T8N R5W S28 NE NE | Hardrock | Jefferson | Catawact | Catawact | Chessman Reservoir | N46 25 08 | W112 13 37 |
| 22-138 | Vera Marie | T7N R5W S33 NW NW | Hardrock | Jefferson | Catawact | Catawact | Mount Thompson | N46 19 17 | W112 14 20 |
| 22-139 | Ba Ka Maa | T07N R05W S11 SE NE | Hardrock | Jefferson | Catawact | Snowdrift/Cataract | Mount Thompson | N46 22 28 | W112 11 5 |
| 22-140 | Ida M. | T7N R5W S27 SW NE | Hardrock | Jefferson | Catawact | Catawact | Mount Thompson | N46 19 57 | W112 12 45 |
| 22-141 | Mountain Chief | T7N R5W S33 N SE | Hardrock | Jefferson | Catawact | Catawact | Mount Thompson | N46 18 57 | W112 13 37 |
| 22-142 | Custer/Hiwatha | T6N R5W S4 E NE | Hardrock | Jefferson | Catawact | Big Limber | Mount Thompson | N46 18 20 | W112 13 25 |
| 22-143 | Self - Riser | T6N R5W S4 E E | Hardrock | Jefferson | Catawact | Catawact | Mount Thompson | N46 18 10 | W112 13 35 |
| 22-144 | West Mount Thompson | T7N R5W S34 NW NW | Hardrock | Jefferson | Catawact | Catawact | Mount Thompson | N46 19 30 | W112 13 22 |
| 22-146 | NE NE Section 28 | T8N R5W S28 NE NE | Hardrock | Jefferson | Catawact | Catawact | Chessman Reservoir | N46 25 15 | W112 14 45 |
| 22-147 | SE NE Section 28 | T8N R5W S28 SE NE | Hardrock | Jefferson | Catawact | Nellie Grant | Chessman Reservoir | N46 24 54 | W112 12 33 |
| 22-148 | NW SW Section 27 | T8N R5W S27 NW SW | Hardrock | Jefferson | Catawact | Nellie Grant | Chessman Reservoir | N46 24 42 | W112 13 20 |
| 22-149 | SE SW Section 2 | T7N R5W S27 NW SW | Hardrock | Jefferson | Catawact | Catawact | Chessman Reservoir | N46 22 45 | W112 11 50 |
| 22-150 | SE SW Section 28 | T7N R5W S23 SE SW | Hardrock | Jefferson | Catawact | Catawact | Mount Thompson | N46 19 25 | W112 14 07 |
| 22-151 | NE Three Brothers | T8N R5W S32 NE SE | Hardrock | Jefferson | Catawact | Upper Cataract | Chessman Reservoir | N46 23 52 | W112 14 52 |
| 22-152 | Middle Snowdrift Cr. | T7N R5W S10 SE SE | Hardrock | Jefferson | Catawact | Catawact | Mount Thompson | N46 22 00 | W112 12 22 |
| 22-153 | Lizzie Osborne | T7N R5W S22 NE NE | Hardrock | Jefferson | Catawact | Catawact | Mount Thompson | N46 20 55 | W112 12 15 |
| 22-154 | Lady Nell/Ada | T7N R5W S17 SW NE | Hardrock | Jefferson | Catawact | Rocker Creek | Basin | N46 22 47 | W112 15 23 |
| 22-155 | Clipper/Edna | T7N R5W S21 N SE | Hardrock | Jefferson | Catawact | Catawact | Mount Thompson | N46 20 25 | W112 13 50 |
| 22-156 | Cataract | T7N R5W S21 SW SE | Hardrock | Jefferson | Catawact | Catawact | Mount Thompson | N46 20 15 | W112 13 55 |
| 22-157 | SW NW Section 28 | T7N R5W S28 SW NW | Hardrock | Jefferson | Catawact | Catawact | Mount Thompson | N46 19 55 | W112 14 15 |
| 22-158 | Binghamton | T7N R5W S17 SW NW | Hardrock | Jefferson | Catawact | Rocker Creek | Basin | N46 21 29 | W112 15 42 |
| 22-159 | Hiawatha | T6N R5W S3 N NW | Hardrock | Jefferson | Catawact | Catawact | Mount Thompson | N46 18 25 | W112 13 00 |
| 22-160 | Redemption | T7N R5W S34 N S | Hardrock | Jefferson | Catawact | Catawact | Mount Thompson | N46 18 50 | W112 12 40 |
| 22-161 | NE NW Section 3 | T6N R5W S3 NE NW | Hardrock | Jefferson | Catawact | Catawact | Mount Thompson | N46 18 25 | W112 12 45 |
| 22-162 | Placer 2313 | T6N R5W S8 SE SE | Hardrock | Jefferson | Catawact | Catawact | Mount Thompson | N46 16 50 | W112 14 55 |

DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU
ABANDONED MINE INVENTORY
TYPE AND LOCATION

| PA NO. | SITE | LEGAL DESCRIPTION | MINE TYPE | COUNTY | MINING DISTRICT | SMALLEST IDENTIFIED DRAINAGE BASIN | USGS QUAD | LATITUDE | LONGITUDE |
|--------|----------------------|-------------------|-----------|-----------|-----------------|------------------------------------|--------------------|-----------|------------|
| 22-163 | NE Basin | T6N R5W S8 S SE | Hardrock | Jefferson | Cataract | Cataract | Basin | N46 16 55 | W112 15 05 |
| 22-164 | NW NE Section 32 | T7N R5W S32 NW NE | Hardrock | Jefferson | Cataract | Uncle Sam Creek | Basin | N46 16 36 | W112 15 28 |
| 22-165 | SW NE Section 32 | T7N R5W S32 SW NE | Hardrock | Jefferson | Cataract | Uncle Sam Creek | Basin | N46 16 25 | W112 15 18 |
| 22-166 | SE SW Section 32 | T7N R5W S32 SE SW | Hardrock | Jefferson | Cataract | Uncle Sam Creek | Basin | N46 16 12 | W112 15 35 |
| 22-167 | SW SE Section 32 | T7N R5W S32 SW SE | Hardrock | Jefferson | Cataract | Uncle Sam Creek | Basin | N46 19 30 | W112 15 05 |
| 22-168 | Evening Star | T7N R5W S29 SW NE | Hardrock | Jefferson | Cataract | Uncle Sam Creek | Basin | N46 19 35 | W112 15 15 |
| 22-169 | SW NW Section 29 | T7N R5W S29 SW NW | Hardrock | Jefferson | Cataract | Uncle Sam Creek | Basin | N46 19 47 | W112 15 37 |
| 22-170 | Rocker | T7N R5W S17 SW NE | Hardrock | Jefferson | Cataract | Rocker Creek | Basin | N46 22 35 | W112 15 07 |
| 22-171 | SW SE Section 29 | T7N R5W S29 SW SE | Hardrock | Jefferson | Cataract | Uncle Sam Creek | Basin | N46 19 50 | W112 15 15 |
| 22-172 | NW SW Section 29 | T7N R5W S29 NW SW | Hardrock | Jefferson | Cataract | Uncle Sam Creek | Basin | N46 19 35 | W112 15 45 |
| 22-173 | Mammoth/Crystal | T7N R5W S19 SE NE | Hardrock | Jefferson | Cataract | Uncle Sam Creek | Basin | N46 21 10 | W112 15 58 |
| 22-174 | Sparkling Water | T7N R5W S20 NW NW | Hardrock | Jefferson | Cataract | Uncle Sam Creek | Basin | N46 21 00 | W112 15 37 |
| 22-175 | Marey An | T7N R5W S18 SE SE | Hardrock | Jefferson | Cataract | Uncle Sam Creek | Basin | N46 21 33 | W112 16 10 |
| 22-176 | James/Holland/Alpine | T7N R5W S17 SW SW | Hardrock | Jefferson | Cataract | Uncle Sam Creek | Basin | N46 21 47 | W112 15 43 |
| 22-177 | SE SE Section 21 | T8N R5W S21 SE SE | Hardrock | Jefferson | Cataract | Cataract | Chessman Reservoir | N46 25 22 | W112 13 37 |

DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU
ABANDONED MINE INVENTORY
LAND USE AND SITE STATUS

| PA NO. | SITE | LAND OWNERSHIP | LOCAL LAND USE | PROJECT NAME | PROJECT STATUS | ACTIVITY STATUS | DATE OF SITE VISIT | INVENTORY PERSON | PRIORITY SCORE | DATE OF | ENTRY | ENTRY OPERATOR'S OPERATION |
|--------|-----------------------|-------------------|-------------------|-----------------|-------------------|--------------------|--------------------------|---------------------|-------------------|----------|---------------|----------------------------------|
| | | | | | | | | | | LAST | OPERATOR NAME | |
| 22-003 | Bluebird | Private | Recreational | Cataract | Pre-Design | Abandoned | 8-8-87 | Grotbo | 33 | 09/11/87 | Blitt | Northern |
| 22-030 | Hattie Ferguson | Private | Mining | Cataract | Pre-Design | Abandoned | 9-12-87 | Kelley | 78 | 12/22/87 | Blitt | Northern |
| 22-032 | Mantle (East) | Private | Recreational | Cataract | Pre-Design | Abandoned | 7/2/87 | Grotbo | 58 | 01/01/80 | Pearson | Northern |
| 22-043 | Saturday Night | Private | Recreational | Cataract | Pre-Design | Abandoned | | | 23 | 05/06/87 | Faber | Northern |
| 22-073 | Crystal | Private | Recreational | Cataract | Pre-Design | Abandoned | 9-12-87 | Kelley | 84 | 12/22/87 | Blitt | Northern |
| 22-075 | Eva May | Private | Recreational | Cataract | Pre-Design | Inactive | 10-16-87 | Grant | 79 | 12/22/87 | Blitt | Northern |
| 22-077 | Morning Glory | Public/Unp | Residential | Cataract | Pre-Design | Inactive | 10-21-87 | Grant | 101 | 12/22/87 | Blitt | Northern |
| 22-106 | Crescent | Private | Recreational | Cataract | Pre-Design | Abandoned | 8-27-87 | Grant | 79 | 09/11/87 | Blitt | Northern |
| 22-125 | Boston | Private | Recreational | Cataract | Pre-Design | Abandoned | 7-1-87 | Grotbo | 81 | 07/10/87 | Digrindakis | Northern |
| 22-126 | California-Dedington | Private | Recreational | Cataract | Pre-Design | Abandoned | 7-1-87 | Grotbo | 66 | 07/10/87 | Digrindakis | Northern |
| 22-127 | Buckeye | Public/Unp | Recreational | Cataract | Pre-Design | Abandoned | 6-30-87 | Grotbo | 83 | 07/10/87 | Digrindakis | Northern |
| 22-128 | New Cottage | Private | Recreational | Cataract | Pre-Design | Abandoned | 6-30-87 | Grotbo | 81 | 07/10/87 | Digrindakis | Northern |
| 22-129 | Deer Lodge | Private | Recreational | Cataract | Pre-Design | Abandoned | 6-30-87 | Grotbo | 78 | 07/10/87 | Digrindakis | Northern |
| 22-130 | Mount Thompson | Private | Recreational | Cataract | Pre-Design | Abandoned | 6-26-87 | Grotbo | 78 | 07/10/87 | Digrindakis | Northern |
| 22-131 | Minneapolis | Private | Recreational | Cataract | Pre-Design | Abandoned | 7-1-87 | Grotbo | 66 | 07/10/87 | Digrindakis | Northern |
| 22-132 | Boulder Chief | Private | Recreational | Cataract | Pre-Design | Abandoned | 6-26-87 | Grotbo | 86 | 07/10/87 | Digrindakis | Northern |
| 22-133 | Victory | Private | Recreational | Cataract | Pre-Design | Abandoned | 7/1/87 | Grotbo | 58 | 01/01/80 | Pearson | Northern |
| 22-134 | Alsace | Private | Recreational | Cataract | Pre-Design | Abandoned | 9/20/87 | Grant | 23 | 12/11/87 | Digrindakis | Northern |
| 22-135 | Ida May | Private | Recreational | Cataract | Pre-Design | Abandoned | 9/20/87 | Grant | 63 | 12/11/87 | Digrindakis | Northern |
| 22-136 | Ousley | Private | Recreational | Cataract | Pre-Design | Abandoned | 8-87 | Grant | 43 | 09/11/87 | Blitt | Northern |
| 22-137 | Corbitt/New Brunswick | Private | Recreational | Cataract | Pre-Design | Abandoned | 8-20-87 | Grant | 58 | 09/11/87 | Blitt | Northern |
| 22-138 | Vera Marie | Public/Unp | Recreational | Cataract | Pre-Design | Abandoned | 8-31-87 | Grant | 81 | 09/11/87 | Blitt | Northern |
| 22-139 | Ba Ka Ma | Private | Recreational | Cataract | Pre-Design | Abandoned | 8/6/87 | Grotbo | 58 | 12/11/87 | Digrindakis | Northern |
| 22-140 | Ida M. | Private | Recreational | Cataract | Pre-Design | Inactive | 9-13-87 | Grant | 66 | 12/17/87 | Blitt | Northern |
| 22-141 | Mountain Chief | Private | Recreational | Cataract | Pre-Design | Abandoned | 9-10-87 | Grant | 41 | 12/22/87 | Blitt | Northern |
| 22-142 | Custer/Hiawatha | Private | Recreational | Cataract | Pre-Design | Abandoned | 9-13-87 | Grant | 61 | 12/17/87 | Blitt | Northern |
| 22-143 | Self - Riser | Private | Recreational | Cataract | Pre-Design | Abandoned | 9-18-87 | Grant | 23 | 12/17/87 | Blitt | Northern |
| 22-144 | West Mount Thompson | Public/Unp | Recreational | Cataract | Pre-Design | Abandoned | 9-13-87 | Grant | 33 | 12/17/87 | Blitt | Northern |
| 22-146 | NE NE Section 28 | Public/Unp | Recreational | Cataract | Pre-Design | Abandoned | 8-20-87 | Grant | 68 | 12/17/87 | Blitt | Northern |
| 22-147 | SE NE Section 28 | Public/Unp | Recreational | Cataract | Pre-Design | Inactive | 8-27-87 | Grant | 33 | 12/17/87 | Blitt | Northern |
| 22-148 | NW SW Section 27 | Public/Unp | Recreational | Cataract | Pre-Design | Inactive | 8-27-87 | Grant | 76 | 12/17/87 | Blitt | Northern |
| 22-149 | SE SW Section 2 | Public/Unp | Recreational | Cataract | Pre-Design | Inactive | 8-28-87 | Grant | 38 | 12/17/87 | Blitt | Northern |
| 22-150 | SE SW Section 28 | Public/Unp | Recreational | Cataract | Pre-Design | Inactive | 9-10-87 | Grant | 76 | 12/17/87 | Blitt | Northern |
| 22-151 | NE Three Brothers | Public/Unp | Recreational | Cataract | Pre-Design | Abandoned | 7-15-87 | Grotbo | 33 | 12/17/87 | Blitt | Northern |
| 22-152 | Middle Snowdrift Cr. | Public/Unp | Recreational | Cataract | Pre-Design | Abandoned | 10-16-87 | Grant | 33 | 12/17/87 | Blitt | Northern |
| 22-153 | Lizzie Osborne | Private | Recreational | Cataract | Pre-Design | Abandoned | 10-16-87 | Grant | 46 | 12/17/87 | Blitt | Northern |
| 22-154 | Lady Nell/Ada | Private | Mining | Cataract | Pre-Design | Abandoned | 9-13-87 | Kelley | 23 | 12/17/87 | Blitt | Northern |
| 22-155 | Clipper/Edna | Private | Recreational | Cataract | Pre-Design | Abandoned | 10-16-87 | Grant | 66 | 12/17/87 | Blitt | Northern |
| 22-156 | Cataract | Private | Recreational | Cataract | Pre-Design | Abandoned | 10-16-87 | Grant | 66 | 12/17/87 | Blitt | Northern |
| 22-157 | SW NW Section 28 | Public/Unp | Recreational | Cataract | Pre-Design | Abandoned | 10-16-87 | Grant | 76 | 12/17/87 | Blitt | Northern |
| 22-158 | Binghamton | Private | Recreational | Cataract | Pre-Design | Inactive | 9-13-87 | Kelley | 23 | 12/17/87 | Blitt | Northern |
| 22-159 | Hiawatha | Public/Unp | Recreational | Cataract | Pre-Design | Abandoned | 9-21-87 | Grant | 46 | 12/17/87 | Blitt | Northern |
| 22-160 | Redemption | Private | Recreational | Cataract | Pre-Design | Abandoned | 9-21-87 | Grant | 28 | 12/17/87 | Blitt | Northern |
| 22-161 | NE NW Section 3 | Public/Unp | Recreational | Cataract | Pre-Design | Abandoned | 10-21-87 | Grant | 68 | 12/17/87 | Blitt | Northern |
| 22-162 | Placer 2313 | Private | Residential | Cataract | Pre-Design | Abandoned | 9-21-87 | Grant | 62 | 12/17/87 | Blitt | Northern |

DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU
ABANDONED MINE INVENTORY
LAND USE AND SITE STATUS

| PA NO. | SITE | LAND OWNERSHIP | LOCAL LAND USE | PROJECT NAME | PROJECT STATUS | ACTIVITY STATUS | DATE OF SITE VISIT | INVENTORY PERSON | PRIORITY SCORE | DATE OF LAST REVISION | ENTRY OPERATOR'S NAME | ENTRY OPERATOR'S ORGANIZATION |
|--------|----------------------|----------------|----------------|--------------|----------------|-----------------|--------------------|------------------|----------------|-----------------------|-----------------------|-------------------------------|
| 22-163 | NE Basin | Public/unp | Recreational | Cataract | Pre-Design | Abandoned | 9-21-87 | Grant | 68 | 12/17/87 | BLIXT | Northern |
| 22-164 | NW NE Section 32 | Public/unp | Residential | Cataract | Pre-Design | Abandoned | 9-11-87 | Kelley | 42 | 12/17/87 | BLIXT | Northern |
| 22-165 | SW NE Section 32 | Public/unp | Recreational | Cataract | Pre-Design | Abandoned | 9-11-87 | Kelley | 33 | 12/17/87 | BLIXT | Northern |
| 22-166 | SE SW Section 32 | Public/unp | Recreational | Cataract | Pre-Design | Abandoned | 9-11-87 | Kelley | 33 | 12/17/87 | BLIXT | Northern |
| 22-167 | SW SE Section 32 | Public/unp | Recreational | Cataract | Pre-Design | Abandoned | 9-11-87 | Kelley | 83 | 12/17/87 | BLIXT | Northern |
| 22-168 | Evening Star | Private | Recreational | Cataract | Pre-Design | Inactive | 9-11-87 | Kelley | 53 | 12/17/87 | BLIXT | Northern |
| 22-169 | SW NW Section 29 | Public/unp | Recreational | Cataract | Pre-Design | Inactive | 9-11-87 | Kelley | 58 | 12/17/87 | BLIXT | Northern |
| 22-170 | Rockier | Private | Mining | Cataract | Pre-Design | Abandoned | 9-13-87 | Kelley | 43 | 12/17/87 | BLIXT | Northern |
| 22-171 | SW SE Section 29 | Public/unp | Recreational | Cataract | Pre-Design | Abandoned | 9-12-87 | Kelley | 33 | 12/17/87 | BLIXT | Northern |
| 22-172 | NW SW Section 29 | Public/unp | Recreational | Cataract | Pre-Design | Abandoned | 9-12-87 | Kelley | 78 | 12/17/87 | BLIXT | Northern |
| 22-173 | Mammoth/Crystal | Public/unp | Recreational | Cataract | Pre-Design | Abandoned | 9-12-87 | Kelley | 33 | 12/17/87 | BLIXT | Northern |
| 22-174 | Sparkling Water | Private | Recreational | Cataract | Pre-Design | Abandoned | 9-12-87 | Kelley | 41 | 12/17/87 | BLIXT | Northern |
| 22-175 | Marex An | Private | Recreational | Cataract | Pre-Design | Inactive | 9-12-87 | Kelley | 53 | 12/17/87 | BLIXT | Northern |
| 22-176 | James/Holland/Alpine | Private | Mining | Cataract | Pre-Design | Abandoned | 9-12-87 | Kelley | 25 | 12/23/87 | BLIXT | Northern |
| 22-177 | SE SE Section 21 | Public/unp | Recreational | Cataract | Pre-Design | Abandoned | 8-20-87 | Grant | 38 | 12/17/87 | BLIXT | Northern |

DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU
ABANDONED MINE INVENTORY
HAZARDS

| PA NO. | SITE | ACCESS- IBILITY | NUMBER OF NUMBER OF HAZARDOUS STRUCTURES | SLOPE STABILITY HAZARDS | UNVEGE- TATED AREA | WATER QUALITY PROBLEMS | AFFECTED POPULATION |
|--------|-----------------------|--------------------|---|-------------------------------|--------------------------|--------------------------------|------------------------|
| 22-003 | Bluebird | Easy | 0 | None | 1-10 | None | 10-100 |
| 22-030 | Hattie Ferguson | Easy | 0 | None | 1-10 | Potential environmental prob. | 10-100 |
| 22-032 | Hantle (East) | Moderate | 0 | Other | 1-10 | None | <10 |
| 22-043 | Saturday Night | Moderate | None | | | | 10-100 |
| 22-073 | Crystal | Moderate | 1 | Other | >10 | Documented environmental prob. | 10-100 |
| 22-075 | Eva May | Moderate | 0 | Dump | 1-10 | Documented environmental prob. | 10-100 |
| 22-077 | Morning Glory | Moderate | 1 | Dump/Impd | 1-10 | Potential human exposure | 10-100 |
| 22-106 | Crescent | Moderate | 1 | None | 1-10 | Documented environmental prob. | 10-100 |
| 22-125 | Boston | Easy | 0 | Dump | <1 | Potential environmental prob. | 10-100 |
| 22-126 | California-Dedington | Moderate | 1 | Dump | <1 | Potential environmental prob. | 10-100 |
| 22-127 | Buckeye | Easy | 1 | Dump | <1 | None | 10-100 |
| 22-128 | New Cottage | Easy | 1 | Dump | <1 | Potential environmental prob. | 10-100 |
| 22-129 | Deer Lodge | Easy | 4 | Dump | 1-10 | None | 10-100 |
| 22-130 | Mount Thompson | Easy | 2 | Highwall | 1-10 | None | 10-100 |
| 22-131 | Minesapolis | Moderate | 2 | Dump | 1-10 | Potential environmental prob. | <10 |
| 22-132 | Boulder Chief | Easy | 2 | Highwall | 1-10 | Potential environmental prob. | 10-100 |
| 22-133 | Victory | Moderate | 1 | None | <1 | None | 10-100 |
| 22-134 | Alsace | Hard | 0 | None | <1 | None | <10 |
| 22-135 | Ida May | Moderate | 1 | Dump | 1-10 | Potential Environmental Prob | 10-100 |
| 22-136 | Ousley | Hard | 0 | Dump | 1-10 | None | <10 |
| 22-137 | Corbitt/New Brunswick | Moderate | 1 | None | <1 | None | 10-100 |
| 22-138 | Vera Marie | Moderate | 4 | Dump | 1-10 | Potential environmental prob. | 10-100 |
| 22-139 | Ba Ka Ma | Moderate | 1 | None | <1 | None | 10-100 |
| 22-140 | Ida M. | Moderate | 1 | Mine Dump | 1-10 | Potential environmental prob. | <10 |
| 22-141 | Mountain Chief | Moderate | 0 | None | <1 | Potential environmental prob. | 101-500 |
| 22-142 | Custer/Hawatha | Moderate | 0 | Mine Dump | <1 | Potential environmental prob. | <10 |
| 22-143 | Self - Riser | Moderate | 0 | None | None | None | 10-100 |
| 22-144 | West Mount Thompson | Moderate | 0 | None | None | None | 10-100 |
| 22-146 | NE NE Section 28 | Moderate | 1 | None | <1 | None | 10-100 |
| 22-147 | SE NE Section 28 | Moderate | 0 | None | <1 | None | <10 |
| 22-148 | NW SW Section 27 | Moderate | 1 | None | <1 | Potential environmental prob. | 10-100 |
| 22-149 | SE SW Section 2 | Moderate | 0 | None | <1 | None | 10-100 |
| 22-150 | SE SW Section 28 | Moderate | 1 | Highwall | <1 | Potential environmental prob. | 10-100 |
| 22-151 | NE Three Brothers | Hard | 0 | None | <1 | None | <10 |
| 22-152 | Middle Snowdrift Cr. | Moderate | 0 | None | None | None | 10-100 |
| 22-153 | Lizzie Osborne | Hard | 0 | Mine Dump | <1 | Potential environmental prob. | <10 |
| 22-154 | Lady Nell/Ada | Hard | 0 | None | <1 | Potential Environmental Prob. | <10 |
| 22-155 | Clipper/Edna | Moderate | 0 | Mine Dump | <1 | Potential environmental prob. | 10-100 |
| 22-156 | Catact | Moderate | 0 | Mine Dump | <1 | Potential environmental prob. | 10-100 |
| 22-157 | SW NW Section 28 | Moderate | 1 | None | <1 | Potential environmental prob. | 10-100 |
| 22-158 | Binghampton | Moderate | 0 | None | <1 | None | <10 |
| 22-159 | Hiawatha | Moderate | 0 | None | <1 | Potential environmental prob. | 10-100 |
| 22-160 | Redemption | Hard | 0 | None | <1 | None | 10-100 |
| 22-161 | NE NW Section 3 | Moderate | 1 | None | <1 | None | 10-100 |
| 22-162 | Placer 2313 | Moderate | 1 | None | <1 | None | 10-100 |

DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU
ABANDONED MINE INVENTORY
HAZARDS

| PA NO. | SITE | ACCESS- IBILITY | NUMBER OF HAZARDOUS STRUCTURES | SLOPE STABILITY | UNVEGE- TATED AREA | HAZ- ARD QUALITY/ PROBLEMS | WATER QUALITY PROBLEMS | AFFECTED POPULATION |
|--------|----------------------|--------------------|--------------------------------------|--------------------|--------------------------|-------------------------------------|------------------------------|------------------------|
| 22-163 | NE Basin | Moderate | 1 | None | <1 | None | None | 10-100 |
| 22-164 | NW NE Section 32 | Easy | 0 | None | <1 | None | None | 10-100 |
| 22-165 | SW NE Section 32 | Easy | 0 | None | None | None | None | 10-100 |
| 22-166 | SE SW Section 32 | Easy | 0 | None | None | None | None | 10-100 |
| 22-167 | SW SE Section 32 | Easy | 0 | Mine Dump | <1 | None | None | 10-100 |
| 22-168 | Evening Star | Moderate | 0 | None | <1 | None | None | <10 |
| 22-169 | SW NW Section 29 | Moderate | 1 | None | None | None | None | <10 |
| 22-170 | Rocker | Hard | 3 | Mine Dump | 1-10 | Potential Environmental | Potential Environmental | <10 |
| 22-171 | SW SE Section 29 | Easy | 0 | None | None | None | None | 10-100 |
| 22-172 | NW SW Section 29 | Easy | 0 | None | None | None | None | 10-100 |
| 22-173 | Mammoth/Crystal | Easy | 0 | None | None | None | None | 10-100 |
| 22-174 | Sparkling Water | Hard | 2 | Highwall | None | None | Potential Environmental | <10 |
| 22-175 | Marex An | Moderate | 1 | Other | <1 | None | None | <10 |
| 22-176 | James/Holland/Alpine | Hard | 0 | Highwall | None | None | None | <10 |
| 22-177 | SE SE Section 21 | Moderate | 0 | None | <1 | None | None | 10-100 |

APPENDIX B

PRIORITIZATION WEIGHTS AND ENTRY RANKS

| Category | Weight | Entries and Ranks |
|---------------------------------|--------|--|
| Safety hazard and Accessibility | 15 | No hazards 0 Hazards and hard access 1 Hazards and moderate access 2 Hazards and easy access 3 |
| Water Quality | 8 | None 0 Potential environmental prob. 1 Documented environmental prob. 2 Potential human exposure 3 Documented human exposure 4 |
| Air Quality | 8 | None 0 Potential human exposure 3 Documented human exposure 4 |
| Unvegetated Area (acres) | 5 | None 0 <1 1 1-10 2 >10 3 |
| Land Ownership | 5 | Private 1 Public 3 |
| Land Use | 4 | Mining 0 Agricultural 1 Recreational 2 Residential 3 Urban or Park 4 |
| Affected Population | 5 | None 0 <10 1 10-100 2 101-500 3 >500 4 |

Maximum Score: 175

APPENDIX B

DEPARTMENT OF STATE LANDS ABANDONED MINE RECLAMATION BUREAU ABANDONED MINE INVENTORY TYPE AND LOCATION

| PA NO. | SITE | LEGAL DESCRIPTION | MINE TYPE | COUNTY | MINING DISTRICT | SMALLEST IDENTIFIED DRAINAGE BASIN | USGS QUAD | LATITUDE | LONGITUDE |
|--------|-----------------------|---------------------|-----------|-----------|-----------------|------------------------------------|--------------------|------------|------------|
| 22-077 | Morning Glory | T7N R5W S33 E N1W | Hardrock | Jefferson | Cataract | Cataract | Mount Thompson | N46 19 05 | W112 14 35 |
| 22-132 | Boulder Chief | T7N R5W S27 S1W N1W | Hardrock | Jefferson | Cataract | Cataract Creek | Jefferson City | N46 19 48 | W112 12 24 |
| 22-073 | Crystal | T7N R5W S19 N1E NE | Hardrock | Jefferson | Cataract | Uncle Sam Creek Basin | Mount Thompson | N46 21 20 | W112 16 10 |
| 22-127 | Buckeye | T6N R5W S4 N1W SE | Hardrock | Jefferson | Cataract | Cataract Creek | Mount Thompson | N46 17 55 | W112 13 48 |
| 22-167 | SW SE Section 32 | T7N R5W S32 S1W SE | Hardrock | Jefferson | Cataract | Uncle Sam Creek Basin | Mount Thompson | N46 19 30 | W112 15 05 |
| 22-128 | New Cottage | T6N R5W S4 S1W SE | Hardrock | Jefferson | Cataract | Cataract Creek | Mount Thompson | N46 17 47 | W112 13 52 |
| 22-125 | Boston | T6N R5W S4 S1W SE | Hardrock | Jefferson | Cataract | Cataract Creek | Mount Thompson | N46 17 51 | W112 13 56 |
| 22-138 | Vera Marie | T7N R5W S33 N1W N1W | Hardrock | Jefferson | Cataract | Cataract Creek | Mount Thompson | N46 19 17 | W112 14 20 |
| 22-075 | Eva May | T7N R5W S22 N1W N1W | Hardrock | Jefferson | Cataract | Cataract | Mount Thompson | N46 21 00 | W112 13 20 |
| 22-106 | Crescent | T8N R5W S29 N1E NE | Hardrock | Jefferson | Cataract | Cataract | Chessman Reservoir | N46 25 17 | W112 14 45 |
| 22-030 | Hattie Ferguson | T7N R5W S29 N1E NE | Hardrock | Jefferson | Cataract | Cataract Creek | Basin | N46 19 35 | W112 14 46 |
| 22-129 | Deer Lodge | T6N R5W S4 S1W SE | Hardrock | Jefferson | Cataract | Cataract Creek | Mount Thompson | N46 17 51 | W112 13 47 |
| 22-130 | Mount Thompson | T7N R5W S34 N1W S1W | Hardrock | Jefferson | Cataract | Cataract Creek | Mount Thompson | N46 18 47 | W112 12 38 |
| 22-172 | NW SW Section 29 | T7N R5W S29 N1W S1W | Hardrock | Jefferson | Cataract | Uncle Sam Creek Basin | Mount Thompson | N46 19 35 | W112 15 45 |
| 22-150 | SE SW Section 28 | T7N R5W S28 SE S1W | Hardrock | Jefferson | Cataract | Cataract | Mount Thompson | N46 19 25 | W112 14 07 |
| 22-148 | NW SW Section 27 | T8N R5W S27 N1W S1W | Hardrock | Jefferson | Cataract | Neillie Grant | Chessman Reservoir | N46 24 42 | W112 13 20 |
| 22-157 | SW NW Section 28 | T7N R5W S28 S1W N1W | Hardrock | Jefferson | Cataract | Cataract | Mount Thompson | N46 19 55 | W112 14 15 |
| 22-163 | NE Basin | T6N R5W S8 S SE | Hardrock | Jefferson | Cataract | Cataract | Basin | N46 16 55 | W112 15 05 |
| 22-146 | NE NE Section 28 | T8N R5W S28 NE NE | Hardrock | Jefferson | Cataract | Cataract | Chessman Reservoir | N46 25 15 | W112 14 45 |
| 22-161 | NE NW Section 3 | T6N R5W S3 NE N1W | Hardrock | Jefferson | Cataract | Cataract | Mount Thompson | N46 18 25 | W112 12 45 |
| 22-131 | Mineapolis | T6N R5W S4 SE N1W | Hardrock | Jefferson | Cataract | Cataract Creek | Mount Thompson | N46 18 05 | W112 14 18 |
| 22-126 | California-Dedington | T6N R5W S4 SE SE | Hardrock | Jefferson | Cataract | Cataract Creek | Mount Thompson | N46 17 49 | W112 13 30 |
| 22-155 | Clipper/Edna | T7N R5W S21 N SE | Hardrock | Jefferson | Cataract | Cataract | Mount Thompson | N46 20 25 | W112 13 50 |
| 22-156 | Cataract | T7N R5W S21 S1W SE | Hardrock | Jefferson | Cataract | Cataract | Mount Thompson | N46 20 15 | W112 13 55 |
| 22-140 | Ida M. | T7N R5W S27 S1W NE | Hardrock | Jefferson | Cataract | Cataract | Mount Thompson | N46 19 57 | W112 12 45 |
| 22-135 | Ida May | T8N R5W S28 NE NE | Hardrock | Jefferson | Cataract | Cataract | Chessman Reservoir | N46 25 15 | W112 14 00 |
| 22-162 | Placer 2313 | T6N R5W S8 SE SE | Hardrock | Jefferson | Cataract | Cataract | Mount Thompson | N46 16 50 | W112 14 55 |
| 22-142 | Custer/Hiwatha | T6N R5W S4 E NE | Hardrock | Jefferson | Cataract | Big Limber | Mount Thompson | N46 18 20 | W112 13 25 |
| 22-032 | Mantle (East) | T6N R5W S9 SE N1W | Hardrock | Jefferson | Cataract | Cataract | Mount Thompson | N46 17 26" | W112 14 21 |
| 22-133 | Victory | T6N R5W S9 NE N1W | Hardrock | Jefferson | Cataract | Cataract | Mount Thompson | N46 14 49 | W112 14 17 |
| 22-137 | Corbitt/New Brunswick | T8N R5W S28 NE NE | Hardrock | Jefferson | Cataract | Cataract | Chessman Reservoir | N46 25 08 | W112 13 37 |
| 22-139 | Ba Ka Maa | T07N R05W S11 SE NE | Hardrock | Jefferson | Cataract | Snowdrift/Catar | Mount Thompson | N46 22 28 | W112 11 5 |
| 22-169 | SW NW Section 29 | T7N R5W S29 S1W N1W | Hardrock | Jefferson | Cataract | Uncle Sam Creek Basin | Mount Thompson | N46 19 47 | W112 15 37 |
| 22-175 | Marey An | T7N R5W S18 SE SE | Hardrock | Jefferson | Cataract | Uncle Sam Creek Basin | Mount Thompson | N46 21 33 | W112 16 10 |
| 22-168 | Evening Star | T7N R5W S29 S1W NE | Hardrock | Jefferson | Cataract | Uncle Sam Creek Basin | Mount Thompson | N46 19 35 | W112 15 15 |
| 22-159 | Hiawatha | T6N R5W S3 N1W N1W | Hardrock | Jefferson | Cataract | Cataract | Mount Thompson | N46 18 25 | W112 13 00 |
| 22-153 | Lizzie Osborne | T7N R5W S22 NE NE | Hardrock | Jefferson | Cataract | Cataract | Mount Thompson | N46 20 55 | W112 12 15 |
| 22-136 | Ousley | T8N R5W S28 NE NE | Hardrock | Jefferson | Cataract | Cataract | Chessman Reservoir | N46 24 53 | W112 14 00 |
| 22-170 | Rocker | T7N R5W S17 S1W NE | Hardrock | Jefferson | Cataract | Rocker Creek | Basin | N46 22 35 | W112 15 07 |
| 22-164 | NW NE Section 32 | T7N R5W S32 N1W NE | Hardrock | Jefferson | Cataract | Uncle Sam Creek Basin | Mount Thompson | N46 16 36 | W112 15 28 |
| 22-174 | Sparkling Water | T7N R5W S20 N1W N1W | Hardrock | Jefferson | Cataract | Uncle Sam Creek Basin | Mount Thompson | N46 21 00 | W112 15 37 |
| 22-141 | Mountain Chief | T7N R5W S33 N SE | Hardrock | Jefferson | Cataract | Cataract | Mount Thompson | N46 18 57 | W112 13 37 |
| 22-177 | SE SE Section 21 | T8N R5W S21 SE SE | Hardrock | Jefferson | Cataract | Cataract | Chessman Reservoir | N46 25 22 | W112 13 37 |
| 22-149 | SE SW Section 2 | T7N R5W S2 S1W S1W | Hardrock | Jefferson | Cataract | Cataract | Chessman Reservoir | N46 22 45 | W112 11 50 |
| 22-003 | Bluebird | T7N R5W S13 S1W N1W | Hardrock | Jefferson | Cataract | Cataract | Jefferson City | N46 21 281 | W112 10 31 |

DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU
ABANDONED MINE INVENTORY
TYPE AND LOCATION

| PA NO. | SITE | LEGAL DESCRIPTION | MINE TYPE | COUNTY | MINING DISTRICT | SMALLEST IDENTIFIED DRAINAGE BASIN | USGS QUAD | LATITUDE | LONGITUDE |
|--------|----------------------|---------------------|-----------|-----------|-----------------|------------------------------------|--------------------|-----------|------------|
| 22-173 | Mammoth/Crystal | T7N R5W S19 SE NE | Hardrock | Jefferson | Cataract | Uncle Sam Creek Basin | Mount Thompson | N46 21 10 | W112 15 58 |
| 22-152 | Middle Snowdrift Cr. | T7N R5W S10 SE SE | Hardrock | Jefferson | Cataract | Cataract | Mount Thompson | N46 22 00 | W112 12 22 |
| 22-147 | SE NE Section 28 | T8N R5W S23 E NE | Hardrock | Jefferson | Cataract | Nellie Grant | Chessman Reservoir | N46 24 54 | W112 12 33 |
| 22-151 | NE Three Brothers | T8N R5W S32 NE SE | Hardrock | Jefferson | Cataract | Upper Cataract | Chessman Reservoir | N46 23 52 | W112 14 52 |
| 22-165 | SW NE Section 32 | T7N R5W S32 SW NE | Hardrock | Jefferson | Cataract | Uncle Sam Creek Basin | Basin | N46 16 25 | W112 15 18 |
| 22-166 | SE SW Section 32 | T7N R5W S32 SE SW | Hardrock | Jefferson | Cataract | Uncle Sam Creek Basin | Basin | N46 16 12 | W112 15 35 |
| 22-171 | SW SE Section 29 | T7N R5W S29 SW SE | Hardrock | Jefferson | Cataract | Uncle Sam Creek Basin | Basin | N46 19 50 | W112 15 15 |
| 22-144 | West Mount Thompson | T7N R5W S34 NW NW | Hardrock | Jefferson | Cataract | Cataract | Mount Thompson | N46 19 30 | W112 13 22 |
| 22-160 | Redemption | T7N R5W S34 N S | Hardrock | Jefferson | Cataract | Cataract | Mount Thompson | N46 18 50 | W112 12 40 |
| 22-176 | James/Holland/Alpine | T7N R5W S17 SW SW | Hardrock | Jefferson | Cataract | Uncle Sam Creek Basin | Basin | N46 21 47 | W112 15 43 |
| 22-043 | Saturday Night | T6N R5W S5 SW NE | Hardrock | Jefferson | Cataract | Cataract Creek | Basin | N46 18 10 | W112 15 05 |
| 22-134 | Alsace | T08N R05W S28 NW NW | Hardrock | Jefferson | Cataract | Cataract Creek | Chessman Reservoir | N46 25 17 | W112 14 27 |
| 22-158 | Binghampton | T7N R5W S17 SW NW | Hardrock | Jefferson | Cataract | Rocker Creek | Basin | N46 21 29 | W112 15 42 |
| 22-154 | Lady Nell/Ada | T7N R5W S17 SW NE | Hardrock | Jefferson | Cataract | Rocker Creek | Basin | N46 22 47 | W112 15 23 |
| 22-143 | Self - Riser | T6N R5W S4 E E | Hardrock | Jefferson | Cataract | Cataract | Mount Thompson | N46 18 10 | W112 13 35 |

DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU
ABANDONED MINE INVENTORY
LAND USE AND SITE STATUS

| PA NO. | SITE | LAND OWNERSHIP | LOCAL LAND USE | PROJECT NAME | PROJECT STATUS | ACTIVITY STATUS | DATE OF SITE VISIT | INVENTORY PERSON | PRIORITY SCORE | DATE OF LAST REVISION | ENTRY OPERATOR'S ORGANIZATION | |
|--------|-----------------------|----------------|----------------|--------------|----------------|-----------------|--------------------|------------------|----------------|-----------------------|-------------------------------|----------|
| 22-077 | Morning Glory | Public/imp | Residential | Cataract | Pre-Design | Inactive | 10-21-87 | Grant | 101 | 12/22/87 | Blixt | Northern |
| 22-132 | Boulder Chief | Private | Recreational | Cataract | Pre-Design | Abandoned | 6-26-87 | Grotbo | 86 | 07/10/87 | Digrindakis | Northern |
| 22-073 | Crystal | Private | Recreational | Cataract | Pre-Design | Abandoned | 9-12-87 | Kelley | 84 | 12/22/87 | Blixt | Northern |
| 22-127 | Buckeye | Public/imp | Recreational | Cataract | Pre-Design | Abandoned | 6-30-87 | Grotbo | 83 | 07/10/87 | Digrindakis | Northern |
| 22-167 | SW SE Section 32 | Public/imp | Recreational | Cataract | Pre-Design | Abandoned | 9-11-87 | Kelley | 83 | 12/17/87 | Blixt | Northern |
| 22-128 | New Cottage | Private | Recreational | Cataract | Pre-Design | Abandoned | 6-30-87 | Grotbo | 81 | 07/10/87 | Digrindakis | Northern |
| 22-125 | Boston | Private | Recreational | Cataract | Pre-Design | Abandoned | 7-1-87 | Grotbo | 81 | 07/10/87 | Digrindakis | Northern |
| 22-138 | Vera Marie | Public/imp | Recreational | Cataract | Pre-Design | Abandoned | 8-31-87 | Grant | 81 | 09/11/87 | Blixt | Northern |
| 22-075 | Eva May | Private | Recreational | Cataract | Pre-Design | Inactive | 10-16-87 | Grant | 79 | 12/22/87 | Blixt | Northern |
| 22-106 | Crescent | Private | Recreational | Cataract | Pre-Design | Abandoned | 8-27-87 | Grant | 79 | 09/11/87 | Blixt | Northern |
| 22-030 | Hattie Ferguson | Private | Mining | Cataract | Pre-Design | Abandoned | 9-12-87 | Kelley | 78 | 12/22/87 | Blixt | Northern |
| 22-129 | Deer Lodge | Private | Recreational | Cataract | Pre-Design | Abandoned | 6-30-87 | Grotbo | 78 | 07/10/87 | Digrindakis | Northern |
| 22-130 | Mount Thompson | Private | Recreational | Cataract | Pre-Design | Abandoned | 6-26-87 | Grotbo | 78 | 07/10/87 | Digrindakis | Northern |
| 22-172 | NW SW Section 29 | Public/imp | Recreational | Cataract | Pre-Design | Abandoned | 9-12-87 | Kelley | 78 | 12/17/87 | Blixt | Northern |
| 22-150 | SE SW Section 28 | Public/imp | Recreational | Cataract | Pre-Design | Abandoned | 9-10-87 | Kelley | 76 | 12/17/87 | Blixt | Northern |
| 22-148 | NW SW Section 27 | Public/imp | Recreational | Cataract | Pre-Design | Inactive | 8-27-87 | Grant | 76 | 12/17/87 | Blixt | Northern |
| 22-157 | SW NW Section 26 | Public/imp | Recreational | Cataract | Pre-Design | Abandoned | 10-16-87 | Grant | 76 | 12/17/87 | Blixt | Northern |
| 22-163 | NE Basin | Public/imp | Recreational | Cataract | Pre-Design | Abandoned | 9-21-87 | Grant | 68 | 12/17/87 | Blixt | Northern |
| 22-146 | NE NE Section 28 | Public/imp | Recreational | Cataract | Pre-Design | Abandoned | 8-20-87 | Grant | 68 | 12/17/87 | Blixt | Northern |
| 22-161 | NE NW Section 3 | Public/imp | Recreational | Cataract | Pre-Design | Abandoned | 10-21-87 | Grant | 68 | 12/17/87 | Blixt | Northern |
| 22-131 | Minneapolis | Private | Recreational | Cataract | Pre-Design | Abandoned | 7-1-87 | Grotbo | 66 | 07/10/87 | Digrindakis | Northern |
| 22-126 | California-Dedington | Private | Recreational | Cataract | Pre-Design | Abandoned | 7-1-87 | Grotbo | 66 | 07/10/87 | Digrindakis | Northern |
| 22-155 | Clipper/Edna | Private | Recreational | Cataract | Pre-Design | Abandoned | 10-16-87 | Grant | 66 | 12/17/87 | Blixt | Northern |
| 22-156 | Cataract | Private | Recreational | Cataract | Pre-Design | Abandoned | 10-16-87 | Grant | 66 | 12/17/87 | Blixt | Northern |
| 22-140 | Ida M. | Private | Recreational | Cataract | Pre-Design | Inactive | 9-13-87 | Grant | 66 | 12/17/87 | Blixt | Northern |
| 22-135 | Ida May | Private | Recreational | Cataract | Pre-Design | Abandoned | 9/20/87 | Grant | 63 | 12/11/87 | Digrindakis | Northern |
| 22-162 | Placer 2313 | Private | Recreational | Cataract | Pre-Design | Abandoned | 9-21-87 | Grant | 62 | 12/17/87 | Blixt | Northern |
| 22-142 | Custer/Hiwatha | Private | Recreational | Cataract | Pre-Design | Abandoned | 9-13-87 | Grant | 61 | 12/17/87 | Blixt | Northern |
| 22-032 | Mantle (East) | Private | Recreational | Cataract | Pre-Design | Abandoned | 7/2/87 | Grotbo | 58 | 01/01/80 | Pearson | Northern |
| 22-133 | Victory | Private | Recreational | Cataract | Pre-Design | Abandoned | 7/1/87 | Grotbo | 58 | 01/01/80 | Pearson | Northern |
| 22-137 | Corbett New Brunswick | Private | Recreational | Cataract | Pre-Design | Abandoned | 8-20-87 | Grant | 58 | 09/11/87 | Blixt | Northern |
| 22-139 | Ba Ka Maa | Private | Recreational | Cataract | Pre-Design | Abandoned | 8/6/87 | Grotbo | 58 | 12/11/87 | Digrindakis | Northern |
| 22-169 | SW NW Section 29 | Public/imp | Recreational | Cataract | Pre-Design | Inactive | 9-11-87 | Kelley | 58 | 12/17/87 | Blixt | Northern |
| 22-175 | Maney An | Private | Recreational | Cataract | Pre-Design | Inactive | 9-12-87 | Kelley | 53 | 12/17/87 | Blixt | Northern |
| 22-168 | Evening Star | Private | Recreational | Cataract | Pre-Design | Inactive | 9-11-87 | Kelley | 53 | 12/17/87 | Blixt | Northern |
| 22-159 | Hiwatha | Public/imp | Recreational | Cataract | Pre-Design | Abandoned | 9-21-87 | Grant | 46 | 12/17/87 | Blixt | Northern |
| 22-153 | Lizzie Osborne | Private | Recreational | Cataract | Pre-Design | Abandoned | 10-16-87 | Grant | 46 | 12/17/87 | Blixt | Northern |
| 22-136 | Ousley | Private | Recreational | Cataract | Pre-Design | Abandoned | 8-87 | Grant | 43 | 09/11/87 | Blixt | Northern |
| 22-170 | Rocker | Private | Mining | Cataract | Pre-Design | Abandoned | 9-13-87 | Kelley | 43 | 12/17/87 | Blixt | Northern |
| 22-164 | NW NE Section 32 | Public/imp | Residential | Cataract | Pre-Design | Abandoned | 9-11-87 | Kelley | 42 | 12/17/87 | Blixt | Northern |
| 22-174 | Sparkling Water | Private | Recreational | Cataract | Pre-Design | Abandoned | 9-12-87 | Kelley | 41 | 12/17/87 | Blixt | Northern |
| 22-141 | Mountain Chief | Private | Recreational | Cataract | Pre-Design | Abandoned | 9-10-87 | Grant | 41 | 12/22/87 | Blixt | Northern |
| 22-177 | SE SE Section 21 | Public/imp | Recreational | Cataract | Pre-Design | Abandoned | 8-20-87 | Grant | 38 | 12/17/87 | Blixt | Northern |
| 22-149 | SE SW Section 2 | Public/imp | Recreational | Cataract | Pre-Design | Abandoned | 8-28-87 | Grant | 38 | 12/17/87 | Blixt | Northern |
| 22-003 | Bluebird | Private | Recreational | Cataract | Pre-Design | Abandoned | 8-6-87 | Grotbo | 33 | 09/11/87 | Blixt | Northern |

DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU
ABANDONED MINE INVENTORY
LAND USE AND SITE STATUS

| PA NO. | SITE | LAND OWNERSHIP | LOCAL LAND USE | PROJECT NAME | PROJECT STATUS | ACTIVITY STATUS | DATE OF SITE VISIT | INVENTORY PERSON | PRIORITY SCORE | DATE OF LAST REVISION | ENTRY OPERATOR'S NAME | ENTRY OPERATOR'S ORGANIZATION |
|--------|----------------------|----------------|----------------|--------------|----------------|-----------------|--------------------|------------------|----------------|-----------------------|-----------------------|-------------------------------|
| 22-173 | Mammoth/Crystal | Public/und | Recreational | Cataract | Pre-Design | Abandoned | 9-12-87 | Kelley | 33 | 12/17/87 | Blitt | Northern |
| 22-152 | Middle Snowdrift Cr. | Public/und | Recreational | Cataract | Pre-Design | Abandoned | 10-16-87 | Grant | 33 | 12/17/87 | Blitt | Northern |
| 22-147 | SE NE Section 28 | Public/und | Recreational | Cataract | Pre-Design | Inactive | 8-27-87 | Grant | 33 | 12/17/87 | Blitt | Northern |
| 22-151 | NE Three Brothers | Public/und | Recreational | Cataract | Pre-Design | Abandoned | 7-15-87 | Grotbo | 33 | 12/17/87 | Blitt | Northern |
| 22-165 | SW NE Section 32 | Public/und | Recreational | Cataract | Pre-Design | Abandoned | 9-11-87 | Kelley | 33 | 12/17/87 | Blitt | Northern |
| 22-166 | SE SW Section 32 | Public/und | Recreational | Cataract | Pre-Design | Abandoned | 9-11-87 | Kelley | 33 | 12/17/87 | Blitt | Northern |
| 22-171 | SW SE Section 29 | Public/und | Recreational | Cataract | Pre-Design | Abandoned | 9-12-87 | Kelley | 33 | 12/17/87 | Blitt | Northern |
| 22-144 | West Mount Thompson | Public/und | Recreational | Cataract | Pre-Design | Abandoned | 9-13-87 | Grant | 33 | 12/17/87 | Blitt | Northern |
| 22-160 | Redemption | Private | Recreational | Cataract | Pre-Design | Abandoned | 9-21-87 | Grant | 28 | 12/17/87 | Blitt | Northern |
| 22-176 | James/Holland/Alpine | Private | Mining | Cataract | Pre-Design | Abandoned | 9-12-87 | Kelley | 25 | 12/23/87 | Blitt | Northern |
| 22-043 | Saturday Night | Private | Recreational | Cataract | Pre-Design | Abandoned | 9/20/87 | Grant | 23 | 05/06/87 | Faber | Northern |
| 22-134 | Alseac | Private | Recreational | Cataract | Pre-Design | Abandoned | 9-13-87 | Kelley | 23 | 12/11/87 | Digrindakis | Northern |
| 22-158 | Binghampton | Private | Recreational | Cataract | Pre-Design | Inactive | 9-13-87 | Kelley | 23 | 12/17/87 | Blitt | Northern |
| 22-154 | Lady Nell/Ada | Private | Mining | Cataract | Pre-Design | Abandoned | 9-13-87 | Kelley | 23 | 12/17/87 | Blitt | Northern |
| 22-143 | Self - Riser | Private | Recreational | Cataract | Pre-Design | Abandoned | 9-18-87 | Grant | 23 | 12/17/87 | Blitt | Northern |

DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU
ABANDONED MINE INVENTORY
HAZARDS

| PA #0. | SITE | WATER QUALITY PROBLEMS | UNDEGRADED AREA | WATER QUALITY PROBLEMS | AFFECTED POPULATION |
|--------|-----------------------|------------------------|-----------------|--------------------------------|---------------------|
| 22-077 | Morning Glory | Moderate 1 | 1-10 | Potential human exposure | 10-100 |
| 22-132 | Boulder Chief | Easy 2 | 1-10 | Potential environmental prob. | 10-100 |
| 22-073 | Crystal | Moderate 1 | >10 | Documented environmental prob. | 10-100 |
| 22-127 | Buckeye | Easy 1 | <1 | None | 10-100 |
| 22-167 | SW SE Section 32 | Easy 0 | <1 | None | 10-100 |
| 22-128 | New Cottage | Easy 1 | <1 | Potential environmental prob. | 10-100 |
| 22-125 | Boston | Easy 1 | <1 | Potential environmental prob. | 10-100 |
| 22-138 | Vera Marie | Moderate 4 | 1-10 | Potential environmental prob. | 10-100 |
| 22-075 | Eva May | Moderate 0 | 1-10 | Documented environmental prob. | 10-100 |
| 22-106 | Crescent | Moderate 1 | 1-10 | Documented environmental prob. | 10-100 |
| 22-030 | Hattie Ferguson | Easy 0 | 1-10 | Potential environmental prob. | 10-100 |
| 22-129 | Deer Lodge | Easy 4 | 1-10 | None | 10-100 |
| 22-130 | Mount Thompson | Easy 2 | 1-10 | None | 10-100 |
| 22-172 | NW SW Section 29 | Easy 0 | None | None | 10-100 |
| 22-150 | SE SW Section 28 | Moderate 1 | <1 | Potential environmental prob. | 10-100 |
| 22-148 | NW SW Section 27 | Moderate 1 | <1 | Potential environmental prob. | 10-100 |
| 22-157 | SW NW Section 28 | Moderate 1 | <1 | Potential environmental prob. | 10-100 |
| 22-163 | NE Basin | Moderate 1 | <1 | None | 10-100 |
| 22-146 | NE NE Section 28 | Moderate 1 | <1 | None | 10-100 |
| 22-161 | NE NW Section 3 | Moderate 1 | <1 | None | 10-100 |
| 22-131 | Mineapolis | Moderate 2 | 1-10 | Potential environmental prob. | <10 |
| 22-126 | California-Dedington | Moderate 1 | <1 | Potential environmental prob. | 10-100 |
| 22-155 | Clipper/Edna | Moderate 0 | <1 | Potential environmental prob. | 10-100 |
| 22-156 | Cataract | Moderate 0 | <1 | Potential environmental prob. | <10 |
| 22-140 | Ida M. | Moderate 1 | 1-10 | Potential environmental prob. | <10 |
| 22-135 | Ida May | Moderate 1 | 1-10 | Potential Environmental Prob | 10-100 |
| 22-162 | Placer 2313 | Moderate 1 | <1 | None | 10-100 |
| 22-142 | Custer/Hiwatha | Moderate 0 | <1 | Potential environmental prob. | <10 |
| 22-032 | Mantle (East) | Moderate 0 | 1-10 | None | <10 |
| 22-133 | Victory | Moderate 1 | <1 | None | 10-100 |
| 22-137 | Corbitt/New Brunswick | Moderate 1 | <1 | None | 10-100 |
| 22-139 | Ba Ka Maa | Moderate 1 | <1 | None | 10-100 |
| 22-169 | SW NW Section 29 | Moderate 1 | <1 | None | 10-100 |
| 22-175 | Marey An | Moderate 1 | None | None | <10 |
| 22-168 | Evening Star | Moderate 1 | <1 | None | <10 |
| 22-159 | Hiawatha | Moderate 0 | <1 | None | <10 |
| 22-153 | Lizzie Osborne | Hard 0 | <1 | Potential environmental prob. | 10-100 |
| 22-136 | Ousley | Hard 0 | <1 | Potential environmental prob. | <10 |
| 22-170 | Rocker | Hard 3 | 1-10 | None | <10 |
| 22-164 | NW NE Section 32 | Easy 0 | <1 | None | <10 |
| 22-174 | Sparkling Water | Hard 2 | None | Potential environmental prob. | <10 |
| 22-141 | Mountain Chief | Moderate 0 | <1 | None | 10-100 |
| 22-177 | SE SE Section 21 | Moderate 0 | <1 | Potential environmental prob. | 10-100 |
| 22-149 | SE SW Section 2 | Moderate 0 | <1 | None | 10-100 |
| 22-003 | Bluebird | Easy 0 | 1-10 | None | 10-100 |

DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU
ABANDONED MINE INVENTORY
HAZARDS

| PA NO. | SITE | ACCESSIBILITY | NUMBER OF OPENINGS | HAZARDOUS STRUCTURES | SLOPE STABILITY | UNDEGRADED AREA | AIR QUALITY PROBLEMS | WATER QUALITY PROBLEMS | AFFECTED POPULATION |
|--------|----------------------|---------------|--------------------|----------------------|-----------------|-----------------|----------------------|------------------------|---------------------|
| 22-173 | Mammoth/Crystal | Easy | 0 | 0 | None | None | None | None | 10-100 |
| 22-152 | Middle Snowdrift Cr. | Moderate | 0 | 0 | None | None | None | None | 10-100 |
| 22-147 | SE NE Section 28 | Moderate | 0 | 0 | None | <1 | None | None | <10 |
| 22-151 | NE Three Brothers | Hard | 0 | 0 | None | <1 | None | None | <10 |
| 22-185 | SW NE Section 32 | Easy | 0 | 0 | None | None | None | None | 10-100 |
| 22-166 | SE SW Section 32 | Easy | 0 | 0 | None | None | None | None | 10-100 |
| 22-171 | SW SE Section 29 | Easy | 0 | 0 | None | None | None | None | 10-100 |
| 22-144 | West Mount Thompson | Moderate | 0 | 0 | None | None | None | None | 10-100 |
| 22-160 | Redemption | Hard | 0 | 0 | None | <1 | None | None | <10 |
| 22-176 | James/Holland/Alpine | Hard | 0 | 0 | Highwall | None | None | None | 10-100 |
| 22-043 | Saturday Night | Moderate | 0 | 0 | None | <1 | None | None | <10 |
| 22-134 | Alsece | Hard | 0 | 0 | None | <1 | None | None | <10 |
| 22-158 | Binghampton | Moderate | 0 | 0 | None | <1 | None | Potential | <10 |
| 22-154 | Lady Nell/Hda | Hard | 0 | 0 | None | <1 | None | Environmental | Prob. <10 |
| 22-143 | Self - Riser | Moderate | 0 | 0 | None | None | None | None | 10-100 |

APPENDIX C

SUMMARY OF OWNER CONSENT

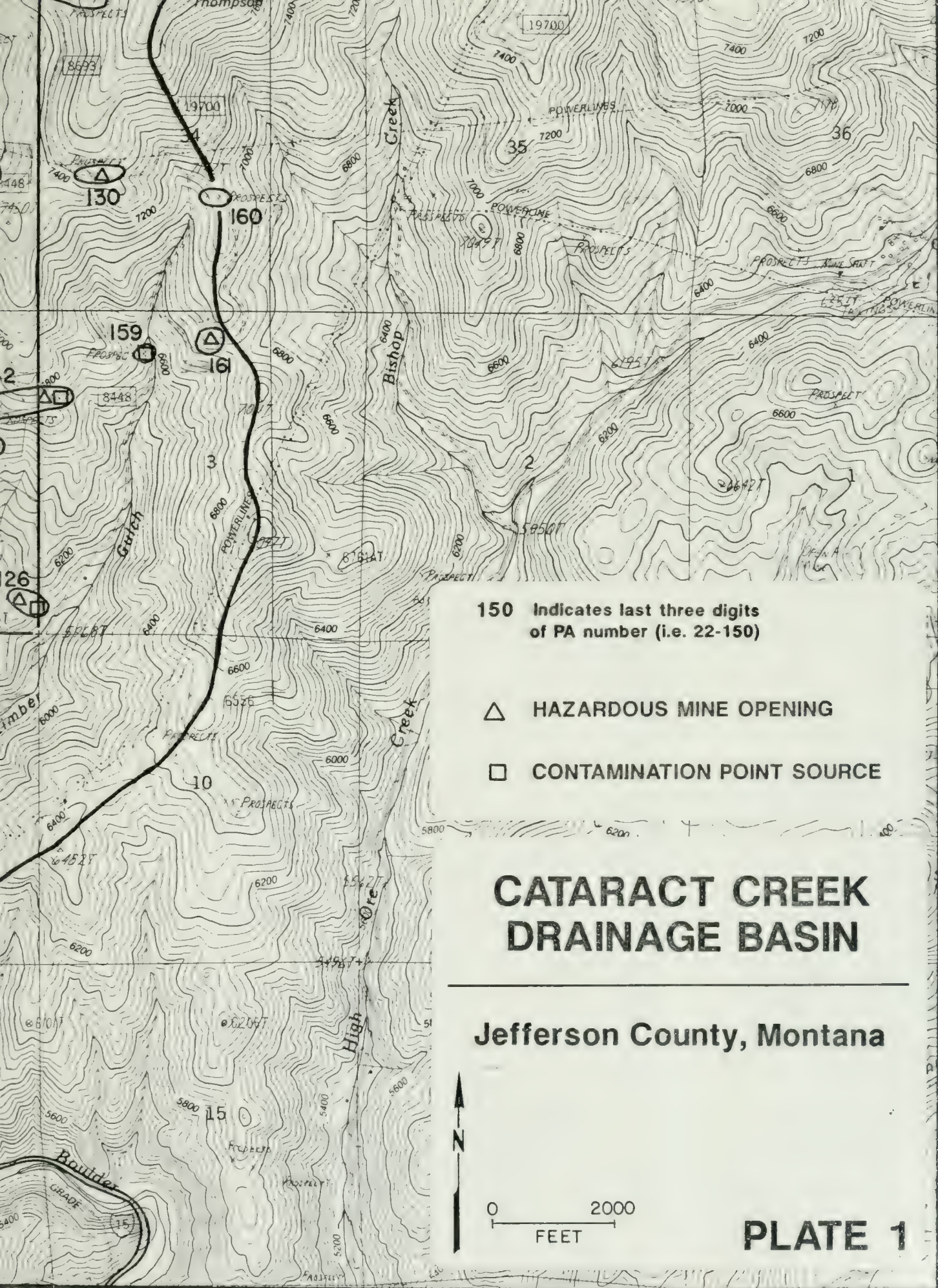
| PA # | SITE NAME | LANDOWNER | INVENTORY CONSENT STATUS |
|--------|-----------------|---|-----------------------------|
| 22-003 | Bluebird | Dennis Cook Joseph & John Hankins P.O. Box 4 Fort Benton, MT 59442 | Not Sent |
| 22-030 | Hattie Ferguson | Margaret L. Wise 1609 Whitman Butte, MT 59701 | Sent/No Response |
| 22-032 | Mantle (East) | George H. Sullivan P.O. Box 593 Erie, CO 80516 | Sent/No Response |
| 22-043 | Saturday Night | Don & Keith Johnson (1/5) 1 - 1st National Bank Bldg. Butte, MT 59701 | Not Sent |
| | | John A. Cleveland (4/5) 314 E. 50th Street New York, NY 10022 | Not Sent |
| 22-073 | Crystal | George Bullock (2/3) % Crystal Mines LTD P.O. Box 66 Basin, MT 59631 | Sent/No Response |
| | | Don & Keith Johnson (1/3) % Crystal Mines LTD | Sent/No Response |
| 22-075 | Eva May | Reno Parker % George Neuberg 319 31st Street West Billings, MT 59102 | Sent/Negative Response |
| 22-077 | Morning Glory | Unpatented Claimant | Not Needed |
| 22-106 | Crescent | Ormont Company 1306 Washington Mutual Bldg. Spokane, WA 99201 | Sent/No Response |
| 22-125 | Boston | Audrey C. Driscoll P.O. Box 713 Butte, MT 59701 | Consent Received |

| PA # | SITE NAME | LANDOWNER | INVENTORY |
|--------|----------------------|--|------------------|
| | | | CONSENT STATUS |
| 22-126 | California-Dedington | Joseph Twomey etal. 1105 Leonard Place Evanston, IL 60201 | Consent Received |
| | | George McCaffrey etal. 1607 42nd Ave. East Seattle, WA 98112 | Sent/No Response |
| 22-127 | Buckeye | Audrey C. Driscoll (See 22-125) | Consent Received |
| 22-128 | New Cottage | Twomey/McCaffrey etal. (See 22-126) | Partly Received |
| 22-129 | Deer Lodge | NW Capital Mngmt & Trust Co. (4/5) 350 N. Last Chance Gulch Helena, MT 59601 | Consent Received |
| | | Celeste M. Gusman (3/40) 612 South Lincoln Spokane, WA 99204 | Consent Received |
| 22-130 | Mount Thompson | James Poore (2/3) 1341 Harrison Ave. Butte, MT 59701 | Not Sent |
| | | Marguerita Altwein (1/6) 1637 Don Carlos Ave. Glendale, CA 91208 | Sent/No Response |
| | | Todd Stokes (1/6) P.O. Box 507 Kalispell, MT 59903 | Sent/No Response |
| 22-131 | Minneapolis | Celeste M. Gusman (13/24) (See 22-129) | Consent Received |
| | | Dorothy L. Walling (1/3) 910 Sierra Rd. West Helena, MT 59601 | Not Sent |
| 22-132 | Boulder Chief | Esther M. Vik 4804 Vesper Drive Everett, WA 98203 | Sent/No Response |
| | | Margaret L. Evans 2331 McDougall Everett, WA 98201 | Sent/No Response |

| PA # | SITE NAME | LANDOWNER | INVENTORY |
|--------|---------------------|--|---------------------------|
| | | | CONSENT STATUS |
| 22-133 | Victory | Twomey/McCaffrey (See 22-126) | Partly Received |
| 22-134 | Alsace | Ormont Company (See 22-106) | Sent/No Response |
| 22-135 | Ida May | St. Pauls Methodist Church P.O. Box 4455 Helena, MT 59601 | Consent Received |
| 22-136 | Ousley | Black Hawk Mining Co., Inc. 200 Grandville St., Suite 100 Vancouver, B.C. Canada | Not Sent |
| 22-137 | Corbitt/New Brunswk | St. Pauls Methodist Church (See 22-135) | Consent Received |
| 22-138 | Vera Marie | Unpatented Claimant | Not Needed |
| 22-139 | Ba Ka Maa | Ruth Brust 667 SE 5th Forest Lake, MN 55025 | Not Sent |
| 22-140 | Ida M. | Wallace T. Staatz P.O. Box 490 Orting, WA 98360 | Not Sent |
| 22-141 | Mountain Chief | Marguerita Altwein (1/2) (See 22-130) | Sent/No Response |
| | | Clifton Dillon (1/2) % William Duthie 7350 Green Meadow Dr. Helena, MT 59601 | Not Sent |
| 22-142 | Custer/Hiawatha | George Neuberg (Custer) (See 22-075) | Sent/Negative Response |
| | | Largey Estate (Hiawatha) % P. L. McDonald P.O. Box 931 Polson, MT 59860 | Sent/No Response |
| 22-143 | Self-Riser | Joseph D. Robertson 114 Lyndale Butte, MT 59701 | Sent/No Response |
| 22-144 | West Mount Thompson | Unpatented Claimant | Not Needed |
| 22-146 | NE NE Section 28 | Unpatented Claimant | Not Needed |

| PA # | SITE NAME | LANDOWNER | INVENTORY |
|--------|----------------------|---|------------------|
| | | | CONSENT STATUS |
| 22-147 | SW NE Section 28 | Unpatented Claimant | Not Needed |
| 22-148 | NW SW Section 27 | Unpatented Claimant | Not Needed |
| 22-149 | SE SW Section 2 | Unpatented Claimant | Not Needed |
| 22-150 | SE SW Section 28 | Unpatented Claimant | Not Needed |
| 22-151 | NE Three Brothers | Unpatented Claimant | Not Needed |
| 22-152 | Middle Snowdrift Cr. | Unpatented Claimant | Not Needed |
| 22-153 | Lizzie Osborne | Robert J.C. Osborne Jr. 720 East Geneva Brentwood Manor Tempe, AZ 85281 | Not Sent |
| 22-154 | Lady Nell/Ada | Jere Melo (1/2 Ada & 2/3 Lady Nell) 119 Jewett St. Fort Bragg, CA 95437 | Not Sent |
| | | Joseph W. Callahan (5/12 Ada) 1138 Glorietta Blvd. Coronado, CA 92118 | Not Sent |
| | | Corette Trustee (1/3 Lady Nell) 1201 W. Platinum Butte, MT 59701 | Not Sent |
| 22-155 | Clipper/Edna | Joseph G. Richards (Clipper) 1911 Hancock Butte, MT 59701 | Not Sent |
| | | Otto Bremer Foundation (Edna) 700 NW National Bank Bldg. St. Paul, MN 55101 | Consent Received |
| 22-156 | Cataract | Unpatented Claimant | Not Needed |
| 22-157 | SW NW Section 28 | Unpatented Claimant | Not Needed |
| 22-158 | Binghampton | William & Marie Carver 6703 Seaview Blvd. Hudson, FL 34667 | Not Sent |
| 22-159 | Hiawatha | Largey Estate (See 22-142) | Sent/No Response |
| 22-160 | Redemption | James A. Poore (See 22-130) | Not Sent |

| PA # | SITE NAME | LANDOWNER | INVENTORY CONSENT STATUS |
|--------|----------------------|---|-----------------------------|
| 22-161 | NE NW Section 3 | Unpatented Claimant | Not Needed |
| 22-162 | Placer 2313 | Don & Keith Johnson (See 22-043) | Not Sent |
| 22-163 | NE Basin | Unpatented Claimant | Not Needed |
| 22-164 | NW NE Section 32 | Unpatented Claimant | Not Needed |
| 22-165 | SW NE Section 32 | Unpatented Claimant | Not Needed |
| 22-166 | SE SW Section 32 | Unpatented Claimant | Not Needed |
| 22-167 | SW SE Section 32 | Unpatented Claimant | Not Needed |
| 22-168 | Evening Star | James E. Leber P.O. Box 367 36 S. Market St. Elizabethtown, PA 17022 | Sent/No Response |
| 22-169 | SW NW Section 29 | Unpatented Claimant | Not Needed |
| 22-170 | Rocker | William & Marie Carver (See 22-158) | Not Sent |
| 22-171 | SW SE Section 29 | Unpatented Claimant | Not Needed |
| 22-172 | NW SW Section 29 | Unpatented Claimant | Not Needed |
| 22-173 | Mammoth/Crystal | Bullock/Johnson (See 22-073) | Sent/No Response |
| 22-174 | Sparkling Water | Bullock/Johnson (See 22-073) | Sent/No Response |
| 22-175 | Marey An | Maryann Mining Comp. 1019 2nd St. Devils Lake, NDS 58301 | Not Sent |
| 22-176 | James/Holland/Alpine | Bullock/Johnson | Sent/No Response |
| 22-177 | SE SE Section 21 | Unpatented Claimant | Not Needed |



150 Indicates last three digits of PA number (i.e. 22-150)

△ HAZARDOUS MINE OPENING

□ CONTAMINATION POINT SOURCE

CATARACT CREEK DRAINAGE BASIN

Jefferson County, Montana



0 2000
FEET

PLATE 1

